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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,669	01/16/2004	Chen-Chu Huang	24061.497	8592
42717 7590 05/16/2007 HAYNES AND BOONE, LLP 901 MAIN STREET, SUITE 3100 DALLAS, TX 75202			EXAMINER KIM, PAUL	
			ART UNIT 2161	PAPER NUMBER
			MAIL DATE 05/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/759,669	Applicant(s) HUANG ET AL.	
	Examiner Paul Kim	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the following communication: Amendment filed on 13 November 2006.
2. Claims 1-56 are pending and present for examination. Claims 1, 8, 15, 22, 29, 36, 43 and 50 are independent.

Drawings

3. As per the objection to the Drawings, applicant's amendment is acknowledged. Accordingly, the objection has been withdrawn.

Claim Objections

4. As per the objection to the claim 1, applicant's amendment is acknowledged. Accordingly, the objection has been withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 3-4, 8, 10-11, 15, 17-18, 22, 24-25, 29, 31-32, 36, 38-39, 43, 45-46, 50, and 52-53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morganstern (U.S. Patent 5,970,490, hereinafter referred to as MORGANSTERN), filed on 4 November 1997, and issued on 19 October 1999, in view of Chen et al (USPGPUB 2004/0024852, hereinafter referred to as CHEN), filed on 30 July 2002, and published on 5 February 2004.

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7. **As per independent claims 1, 8, 15, 22, 29, 36, 43 and 50, MORGANSTERN, in combination with CHEN, discloses:**

A method for synchronizing data retained in a plurality of heterogeneous databases comprising the steps of:

extracting said data from a first database of said heterogeneous databases retained on said first database retention device {See MORGANSTERN, C3:L23-27, wherein this reads over "mediators and information bridges each of which can access heterogeneous data resources and transform that information for use by databases and specialized representations"; and C5:L58-60, wherein this reads over "the information bridge completes the transformation process and imports the external data into this specialized representation"};

converting said extracted data from a first format of said first database to format types of all remaining of the plurality of heterogeneous databases {See MORGANSTERN, C2:L60-C3:L1, wherein this reads over "transforming the source data into a common intermediate representation of the data using the specifications"; and C3:L23-27, wherein this reads over "mediators and information bridges each of which can access heterogeneous data resources and transform that information for use by databases and specialized representations"};

attaching the data converted to the format types of the remaining plurality of databases {See MORGANSTERN, C5:L36-48, wherein this reads over "[t]he target representation may be another database with a different data model and schema, or the target may be a specialized data structure"};

receiving a permission semaphore indicating that the data is synchronized among the plurality of databases {See CHEN, [0036], wherein this reads over "a resource checks the appropriate semaphore to determine if the resource is available, and if so, that component 'takes' the semaphore by setting the flag to indicate that resource is not available"}; and

transferring the permission semaphore to the first database to authorize usage of said first database {See CHEN, [0036], wherein this reads over "[o]nce the component is finished with the resource, the component sets the flag to indicate that the resource is available"}.

The combination of the inventions disclosed in MORGANSTERN and CHEN would disclose a method wherein data is extracted and converted to uniform format, and thereafter transmitting permission semaphores to indicate the synchronization of data among the plurality of heterogeneous databases. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by MORGANSTERN and CHEN.

One of ordinary skill in the art would have been motivated to do this modification in order to synchronize data from manufacturing information systems into a common format.

8. **As per dependent claims 3, 10, 17, 24, 31, 38, 45 and 52, MORGANSTERN, in combination with CHEN, discloses:**

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The method of claim 15 wherein receiving a permission semaphore comprises the step of transferring a status indication for the remaining plurality of heterogeneous databases indicating the completion of the synchronization {See CHEN, [0036], wherein this reads over "[o]nce the component is finished with the resource, the component sets the flag to indicate that the resource is available"}.

The combination of the inventions disclosed in MORGANSTERN and CHEN would disclose a method wherein data is extracted and converted to uniform format, and thereafter transmitting permission semaphores to indicate the synchronization of data among the plurality of heterogeneous databases. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by MORGANSTERN and CHEN.

One of ordinary skill in the art would have been motivated to do this modification since semaphores are commonly used as indicators that a certain process has completed.

9. **As per dependent claims 4, 11, 18, 25, 32, 39, 46 and 53**, MORGANSTERN, in combination with CHEN, discloses:

The method of claim 15 further comprising the steps of: reviewing by a database manager the data converted to the format types of the remaining plurality of databases; and generating one permission semaphore for each of the remaining plurality of heterogeneous databases.

In light of Applicant's disclosure that "a document manager is either a person responsible for reviewing changes, it would have been obvious to one of ordinary skill in the art at the time the invention was claimed that a person may be able to review converted data and generate permission semaphores.

10. **Claims 2, 9, 16, 23, 30, 37, 44 and 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over MORGANSTERN, in view of CHEN, and in further view of Ishibashi et al (USPGPUB No. 20020138733, hereinafter referred to as ISHIBASHI), filed on 15 February 2001, and published on 2002/0138733.

11. **As per dependent claims 2, 9, 16, 23, 30, 37, 44 and 51**, MORGANSTERN, in combination with CHEN and ISHIBASHI, discloses:

The method of claim 15 wherein converting said extracted data comprises the step of creating an identification of the data that includes a data identifier and a serial number {See ISHIBASHI, Figures 4-5; and [0078], wherein this reads over "[t]he contents identifier (ID) and the serial number are data corresponding to data in the contents"}.

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The combination of the inventions disclosed in MORGANSTERN, CHEN and ISHIBASHI would disclose a method wherein a data identifier and a serial number are created to identify data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by MORGANSTERN, CHEN and ISHIBASHI.

One of ordinary skill in the art would have been motivated to do this modification in order to distinguish data of a database, process, or system from data of other heterogeneous databases, processes, or systems.

12. **Claims 5-7, 12-14, 19-21, 26-28, 33-35, 40-42, 47-49, and 54-56** are rejected under 35 U.S.C. 103(a) as being unpatentable over MORGANSTERN, in view of CHEN, and in further view of Beauchesne (U.S. Patent No. 5,777,876, hereinafter referred to as BEAUCHESNE), filed on 29 December 1995, and issued on 7 July 1998.

13. **As per dependent claim 5, 12, 19, 26, 33, 40, 47 and 54**, MORGANSTERN, in combination with CHEN and BEAUCHESNE, discloses:

The method of claim 15 wherein the first database is a manufacturing information system specification database retaining equipment environment and operational settings of equipment of a manufacturing facility {See BEAUCHESNE, Abstract, wherein this reads over "[a] database system provides a manufacturing factory environment which integrates a plurality of manufacturing processes . . . provid[ing] a predetermined number of control table structures in memory for storing predetermined types of control parameter entries used in controlling the manufacturing process"}.

The combination of the inventions disclosed in MORGANSTERN, CHEN and BEAUCHESNE would disclose a method wherein a database is used to retain data from a manufacturing information system, specifically equipment environment and operational settings of the equipment. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by MORGANSTERN, CHEN and BEAUCHESNE.

One of ordinary skill in the art would have been motivated to do this modification in order to store and process data regarding the aforementioned manufacturing information system.

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14. **As per dependent claim 6, 13, 20, 27, 34, 41, 48 and 55, MORGANSTERN, in combination with CHEN and BEAUCHESNE, discloses:**

The method of claim 19 wherein the manufacturing information specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility {See BEAUCHESNE, Abstract, wherein this reads over "[a] database system provides a manufacturing factory environment which integrates a plurality of manufacturing processes . . . provid[ing] a predetermined number of control table structures in memory for storing predetermined types of control parameter entries used in controlling the manufacturing process"}.

15. **As per dependent claim 7, 14, 21, 28, 35, 42, 49 and 56, MORGANSTERN, in combination with CHEN and BEAUCHESNE, discloses:**

The method of claim 19 wherein the remaining plurality of heterogeneous databases is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility {See BEAUCHESNE, Abstract, wherein this reads over "[a] database system provides a manufacturing factory environment which integrates a plurality of manufacturing processes . . . provid[ing] a predetermined number of control table structures in memory for storing predetermined types of control parameter entries used in controlling the manufacturing process"}.

Response to Arguments

16. Applicant's arguments filed 13 November 2006 have been fully considered but they are not persuasive.

a. Rejections under 35 U.S.C. 103(a)

- i. Applicant Argument: The references do not teach the claimed subject matter

As per independent claims 1, 8, 15, 22, 29, 36, 43, and 50, Applicant asserts the argument that the cited combination of the Morganstern and Chen references fail to teach and disclose "a data attachment device . . . to attach the data converted to the format types of the remaining plurality of database." The Examiner respectfully disagrees. The Examiner directs the Applicant to the following disclosure by Morganstern, column 5, lines 36-48:

A variety of kinds of information resources utilizing a common specification language and internal representation can be supported. The design can support heterogeneous databases with different schemas and data models . . . which produce specialized data structure representations.

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The information bridge 1 transforms data from heterogeneous data sources 2, 4, and 6 for example . . . into a common intermediate representation and then into a specialized target representation – as determined by the specifications.

As the Applicant states, “the cited portion describes, not attaching the converted data, to a database (or a plurality of database) . . . [but] describes transforming, or converting, the data from one format (e.g., a ‘common intermediate representation’) to another (e.g., the ‘target representation’)” (See Amendment, page 15). The Examiner notes that Morganstern indeed does read upon the limitations of the claim in that it discloses transformation of data into a specialized target representation (i.e. attaching the data converted) determined by the specifications of the heterogeneous data sources (i.e. to the format types of the remaining plurality of databases). Accordingly, it is noted that Morganstern does teach and disclose “a data attachment device . . . ” as recited in claim 1.

Additionally, Applicant asserts the argument that Chen fails to teach “a release mechanism . . . to receive a permission semaphore indicating that the data is synchronized among the plurality of databases” (See Amendment, page 15). The Examiner respectfully disagrees. Applicant is directed to Paragraphs [0035]-[0036] of Chen which discloses that “[t]he semaphores 210 allow them to coordinate their accesses to the database . . . so that, e.g., the name server component 202 is not trying to read a cache entry that the cache manager component 206 is updating.” It is noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). That is, wherein Morganstern discloses a system wherein data from several heterogeneous data resources is transformed into a common intermediate representation (i.e. a specialized representation), it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the semaphores as disclosed by Chen, to provide that

the data of the several heterogeneous data resources had been synchronized into a common intermediate representation. By issuing the permission semaphores, the invention as claimed would then be able to acknowledge and authorize usage of the data resources. Accordingly, it is noted that the combination of Morganstern and Chen does teach and disclose "a release mechanism . . ." as recited in claim 1.

For the reasons stated above, the rejections of claims 1, 8, 15, 22, 29, 36, 43, and 50 are sustained under 35 U.S.C. 103(a).

ii. Applicant Argument: The combination of references is improper

Applicant asserts the argument that "there is simply no basis in the art for combining the references to support a 35 U.S.C. 103 rejection" (See Amendment, page 16). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, while Morganstern fails to disclose a method of issuing semaphores, it would have been obvious to one of ordinary skill in the art to modify the invention as disclosed by Morganstern by the invention disclosed by Chen in that Chen discloses the use of semaphores to acknowledge if a resource is available and further providing a form of protection against data corruption. In the present invention, semaphores are utilized to indicate whether data is synchronized among a plurality of databases. Accordingly, one of ordinary skill in the art at the time the invention was made would be motivated to incorporate the use of semaphores as disclosed by Chen to provide coordination of permissive access to databases upon the acknowledgement that data synchronization as occurred.

Applicant further asserts the argument that "the Examiner's combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to the independent claims" (See Amendment, page 16). In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the reasons stated above, the combination of references is deemed to be proper and the rejections under 35 U.S.C. 103 are sustained.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SAM RIMELL
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